1.0 INTRODUCTION

As part of the Weill Cornell Medical College (WCMC) Environmental Health and Safety (EHS) Program Manual, this Hot Work Program has been established. The Hot Work Program has been created to promote a safe work atmosphere. This Program is in compliance with the New York City Fire Code and applies to all employees and contractors who perform or supervise hot work activities in any building or structure, on building roofs, or on buildings setback.

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3.0 OBJECTIVE

The Hot Work Program has been developed to prevent fires resulting from temporary operations that produce heat, sparks, hot slag, or have open flames. This includes, but is not limited to, brazing, cutting, grinding, soldering, thawing pipes, torch applied roofing and welding.

All hot work requires WCMC authorization, regardless if a fire department permit has been issued or the work will be performed inside or outside. Hot work authorization may also be required for non-fire causing work (e.g., work involving excessive dust).

This procedure provides information on the proper practices when working in hot work areas. The goal of this program is to provide employees and contractors with the information needed to establish and maintain a safe environment while performing hot work activities.

4.0 ROLES AND RESPONSIBILITIES

4.1 ENVIRONMENTAL HEALTH AND SAFETY (EHS)

- Review and authorize hot work requests.
- Manage fire alarm systems and take necessary actions to prevent false fire alarm activations during hot work activities.
- Inspect hot work areas periodically to ensure there are no safety hazards present.
- Ensure hot work is performed in accordance with this Program and in compliance with the New York City Fire Code.
- Provide education and training to WCMC staff and contractors as needed.
- Maintain the following records: Pre-Hot Work Check Forms, Permits/Authorizations and training records.

4.2 CAPITAL PLANNING

- Provide contractors with a copy of this Hot Work Program.
- Ensure all contractors perform work in accordance with this program and in compliance with the New York City Fire Code.
- Ensure all contractors obtain permits and other approvals required to store, handle or use compressed gases as required by the New York City Fire Code.
- Submit the Hot Work Authorization Request Form for contractors hired by or working for Capital Planning.
- Submit advance notice of at least one week when requesting hot work for off-hours work.

4.3 ENGINEERING & MAINTENANCE (E&M)

- Provide contractors with a copy of this Hot Work Program.
Ensure all contractors hired by and/or working for E&M perform work in accordance with this program and in compliance with the New York City Fire Code.

Ensure all contractors hired by and/or working for E&M obtain permits and other approvals required to store, handle or use compressed gases as required by the New York City Fire Code.

Submit the Hot Work Authorization Request Form for contractors hired by or working for E&M.

Submit advance notice of at least one week when requesting a permit for off-hours hot work.

4.4 CONTRACTORS AND WCMC STAFF PERFORMING HOT WORK

- Comply the WCMC Hot Work Program.
- Maintain required FDNY Certificates of Fitness.
- Obtain required FDNY Permits.
- Contact EHS with any questions or concerns regarding safety at hot work sites.

*Note: Contractors are prohibited from altering, disabling, removing or modifying any fire protection system, device or related fire protection equipment (including portable fire extinguishers).

4.5 RESPONSIBLE PERSON FOR HOT WORK AREA

For citywide hot work operations, WCMC EHS must be notified in writing by the Responsible Person at least 48 hours before the hot work is to be started.

For all hot work operations, EHS will designate a Responsible Person for the hot work area. Hot work operations must be conducted under the general supervision of the Responsible Person. The Responsible Person:

- Ensures that the hot work is performed in compliance with the terms and conditions of this Program.
- Inspects the hot work area and ensuring that it is a fire safe area.
- Monitors periodically the work as it is being performed to ensure there are no fire safety hazards.
- Complete/conducts the Pre-Hot Work Check before hot work is authorized and at least once per day.
- Maintains the Pre-Hot Work Check Form at the work site during the work, making it available for inspection by a representative of the department, and returning it to EHS when the hot work is completed.
5.0 FDNY CERTIFICATE OF FITNESS REQUIREMENTS

FDNY Certificates of Fitness holders are required when performing hot work at WCMC. The Certificate of Fitness holders must provide EHS with a valid copy of the certificate prior to obtaining a Hot Work Authorization Permit.

The Certificate of Fitness holder must keep the Certificates of Fitness upon his or her person or otherwise readily available for inspection by any representative of the Fire Department, at all times while conducting or supervising the material, operation or facility for which the certificate is required.

All persons performing hot work must possess a valid FDNY Certificate of Fitness.

5.1 TORCH OPERATORS (FDNY Torch use of Flammable Gases for Hot Work Operations Certificate of Fitness Holder)

Torch operations using oxygen and flammable gas and any torch operation for torch-applied roof systems must be performed by an individual with a current Certificate of Fitness issued by the FDNY. The Certificate of Fitness must be in the possession of the operator during torch operations.

Torch operators must:
- Perform torch operations safely.
- Ensure that all hot work is coordinated with EHS, that proper authorization has been obtained and that appropriate precautions are taken regarding fire alarm systems.
- Coordinate with fire guard(s) to ensure proper maintenance and housekeeping of the site prior to and during the work.

5.2 FIRE GUARDS (FDNY Fire Guard for Torch Operations Certificate of Fitness Holder)

All hot work operations require a Fire Guard. Fire guards are responsible for maintaining a fire watch and ensuring fire safety guidelines are adhered to. Fire guards are required to have a current Certificate of Fitness issued by the FDNY. The Certificate of Fitness must be in the possession of the fire guard(s) during torch operations.

Fire guards must:
- Know potential hazards and hazard control measures of the hot work site.
- Coordinate with the responsible person to perform Pre-Hot Work Check of site.
- Maintain Pre-Hot Work Check Form on site until conclusion of the work.
- Coordinate with torch operator to ensure proper precautions are taken regarding fire alarm system.
- Ensure proper maintenance and housekeeping of the site prior to and during the work.
- Ensure proper posting of the Hot Work Authorization Permit, Pre-Hot Work Check Form and warning signage for site.
- Maintain proficiency in use of portable fire extinguishers and fire reporting notification and evacuation procedures.
- Ensure a portable fire extinguisher with at least a 2-A:20-B:C rating (a minimum 3- A:40-B:C rating fire extinguisher on torch-applied roofing system operations) is readily accessible within 30 feet of the location where hot work is performed and where the Fire Guard is positioned.

5.2.1 Fire Watch

One certified fire guard for torch operations is required per spark producing tool (torch, chop saw, grinder) and may not perform other work except fire guard duties.

- The Fire Watch observes the entire hot work area.
- The Fire Watch are authorized to stop work if necessary and restore safe conditions within the hot work areas.
- Hot work conducted in areas with vertical or horizontal fire exposures that are not observable by a single individual must have additional personnel assigned to ensure that exposed areas are monitored.
- The Fire Watch must continue for a minimum of 30 minutes after the conclusion of the work.
- The Responsible Person implementing the hot work program may extend the duration of the fire watch based on the hazards or work being performed.
- If the Fire Watch must leave the work site, all hot work must stop.
- A Fire Watch will be provided for each torch operation at a construction site and in connection with torch-applied roofing system operations. A Fire Guard shall be provided for each torch in operation.
- An additional Fire Guards must be provided on the floor or level below the torch operation.
- The fire watch is also authorized to stop work if necessary to restore safe conditions within the hot work areas.
- Individuals assigned to Fire Guard duty are responsible for identifying and extinguishing spot fires and reporting such fires to the Fire Department. If it appears possible to extinguish the fire safely, the Fire Watch designee should attempt to do so. At no point should one place their life or safety in jeopardy for a fire.

5.2.2 Special Regulations of Fire Watch in the Torch-applied Roof System

Torch-applied roof system is a bituminous roofing system using membranes that are adhered by heating with a torch and melting asphalt back coating
instead of mopping hot asphalt for adhesion. Torch-applied roof system must not be operated on roofs constructed of combustible materials. Fire Guards must be on continuous duty during all torch operations on the roof of a building. There must be one Fire Guard on the roof for each torch operator, and an additional Fire Guard is required one floor level below the work area. The Fire Guard must ensure that sparks do not cause a fire on the lower floor. A minimum 3-A: 40-B: C rating fire extinguisher must be readily accessible within 30 feet of the hot work location and the Fire Guard. Fire Guards may use garden hoses connected to a reliable water supply, or buckets of water.

### 6.0 COMPRESSED GAS HANDLING, USE, AND STORAGE

#### 6.1 GENERAL GUIDANCE

6.1.1 **Labeling**

The contents of any compressed gas container must be clearly identified. Gas identification should be stenciled or stamped on the container or a label and is typically applied near the neck of the container. Do not rely solely on the color of the container to identify the contents. Do not use any container that is unmarked or has conflicting marking or labels.

6.1.2 **Refilling Compressed Gas Containers**

It is illegal to refill gas containers in New York City. Empty containers must be handled in the same manner as full ones. The gas containers must be replaced when they are empty. They should be marked empty, the container valve or regulator tap must be closed and stored separately from full containers. All empty containers must be promptly removed by vendors.

6.1.3 **Always replace the protective cap**

Most gas containers have a protect cap, LP Gas containers have a collar. These devices protect the container control valve from physical damage. The protective cap is shaped like an inverted cup. It is screwed on top of the gas container. It must be in place when the gas container is not in use. The protective collar is welded onto the top of the container. The collar extends above the height of the containers control valve. An example of a container with a protective collar installed is shown below.

6.1.4 **Temperature and Physical Damage**

All gas containers and the related equipment must be protected from extreme temperature and physical damage. For example, gas containers for temporary stationary service must be placed on firm and non-combustible foundation. High temperatures (e.g. above 125 °F) can cause the pressure inside the container to increase to a dangerous level. A protective partition must be used to shield the containers that are exposed to hot air blown by a heating
6.1.5 Handling of Cylinders

Compressed gas cylinders must always be transported on wheeled cylinder carts with retaining straps or chains. Cylinders must be secured in a boot or by a chain to a fixed support to prevent them from being dropped or from falling over when in use. Cylinders must not be banged, dropped or permitted to strike each other or against other hard surfaces. When transporting cylinders, a valve cover must be in place at all times. Do not use the valve cover to lift cylinders; they could be damaged and become unattached causing the cylinder to drop on a hard surface possibly resulting in an explosion.

6.2 STORAGE

Cylinders must be stored upright and secured with a chain, strap, or cable to a stationary building support (i.e. Structural Beam) or to a cylinder cart to prevent cylinders from tipping or falling. Compressed gas cylinders in storage must be 20 feet from all classes of flammable and combustible liquids, oxidizing gases, and combustible materials, 25 feet from any open flames and sources of ignition, ordinary electrical equipment, 50 feet from air conditioning equipment, air compressors, and ventilation intakes, and 50 feet from other flammable gas storage. Store cylinders in a dry, well-ventilated area away from flames, sparks, or any source of heat or ignition. Place cylinders in a location where they will not be subject to mechanical or physical damage, heat, or electrical circuits to prevent possible explosion or fire. Segregate empty cylinders from full cylinders. Caps used for valve protection should be kept on the cylinders at all times, except when the cylinder is actually being used or charged. Cylinder valves should remain closed. When empty cylinders are to be returned to the vendor, mark them “Empty” or “MT.” All applicable FDNY permits and must be onsite and reviewed by EHS prior to the storage of any compressed gases.

6.2.1 Compressed Gas Storage for Construction

- **Group A, B, E, I, or R occupancies (e.g. 1305 York Avenue, Ladson, Olin Hall)**
  - No overnight storage of flammable gases is permitted.
  - Portable LPG containers that are more than **16.4 oz** must not stored, handled or used indoors for construction.

- **All other Buildings (e.g. 1300 York, S-Building, RR Bldg)**
  - No below grade storage of flammable gas is permitted.
  - Flammable gas stored in excess of 400 SCF. Requires a permit from FDNY.
  - Storage or more than 1000 SCF. Of flammable gas is not permitted.
o Cylinders must be removed from the construction floor once they are no longer “in use” and put into the approved storage area or removed from the site.

o Reserve cylinders are not permitted on a construction floor.

o All reserve cylinders must be stored in an FDNY approved storage area on the ground floor of the building.

6.2.2 Compressed Gas Storage and Usage Requirements for WCMC Maintenance and Operations

- **Group A, B, E, I, or R occupancies (e.g. 1305 York Avenue, Ladson, Olin Hall)**
  - Flammable gas stored in excess of 400 SCF. Requires a permit from the FDNY.
  - Storage or more than 1000 SCF. of flammable gas is not permitted.
  - Reserve cylinders are not permitted
  - Cylinders of flammable gas may not be larger than 250 SCF.
  - Portable LPG containers that are more than 16.4 oz must not stored, handled or used indoors except for research purposes.

- **All other Buildings (e.g. 1300 York, S-Building, RR Bldg)**
  - No below grade storage of flammable gas is permitted.
  - Flammable gas stored in excess of 400 SCF. Requires a permit from the FDNY.
  - Storage or more than 1000 SCF. of flammable gas is not permitted.
  - Reserve cylinders are not permitted

6.3 FDNY PERMITS

A Hot Work Authorization Permit is issued by WCMC EHS and authorizes specified hot work at a specific location, date and time. Additional FDNY Permits are required to conduct hot work if:

- Using oxygen and a flammable.
- Storing, using or handling any flammable gas (e.g. LPG or CNG or acetylene) in excess of 400 SCF.

6.3.1 Types of FDNY Permits

- **Site-Specific Permit**: Such permit authorizes the permit holder to store, handle, use flammable gases or conduct a torch operation at a specific premises or location. A site-specific permit may be a permanent permit or a temporary permit. Permanent permits are valid for 12 months only. Temporary permit may be valid from one day to 12 months depends on the construction /operation need.

- **Citywide Permit**: A city-wide permit is valid up to 30 days and all gas containers must be removed from the site at the end of each workday. A
new application must be submitted if a single job will last more than 30 days.

6.3.2 Permits for Citywide Hot Work Operations

- Each vehicle used to transport torches and containers of oxygen and flammable gas for use in citywide hot work operations must be inspected by a Department representative at the Bureau of Fire Prevention’s hazardous cargo vehicle inspection facility prior to the issuance of a permit for citywide hot work operations.
- A city-wide permit is valid up to 30 days. A site-specific citywide permit must be obtained for any hot work operations that are conducted for more than 30 days.
- A separate permit must be applied for storage of oxygen or flammable gas at a work site.
- All permits are not transferable and any change in occupancy, operation, tenancy or ownership must require that a new permit be issued. The Certificate of Fitness holder is responsible for making sure that all fire safety regulations and procedures are obeyed on the premises. Permits must be readily available on the premise for inspection by Fire Department representatives.

*All hot work requires a WCMC Hot Work Authorization Permit, regardless if a fire department permit has been issued.

7.0 HOT WORK LOCATIONS

7.1 AUTHORIZED AREAS

Hot work may be conducted in the following areas:

- Areas designed for hot work operations.
- Areas authorized by EHS.

7.2 RESTRICTED AREAS

Hot work is prohibited in the following areas.

- Any confined space without special written authorization from EHS.
- Areas not authorized by EHS.
- Areas where combustible material is located within 35 feet.
- Areas where the sprinkler system is impaired.
- Areas where there exists the potential of an explosive atmosphere, such as locations where flammable gases, liquids or vapors are present.
- Areas with readily ignitable materials, such as storage of large quantities of bulk sulfur, baled paper, cotton, lint, dust or loose combustible materials.
8.0 FIRE SAFETY GUIDELINES

All employees and/or contractors performing hot work in any WCMC space must follow the fire safety guidelines listed below.

8.1 COMBUSTIBLE MATERIALS

- Hot work areas must be at least 35 feet (10 668 mm) from combustible materials and combustible waste or appropriate shield must be utilized to prevent sparks, slag or heat from igniting exposed combustibles.
- Welding blankets are required for all hot work to prevent sparks and slag from igniting exposed combustibles.
- Covering or shielding must be provided within 35 feet of the hot work on any storage or other combustibles that cannot be moved with approved welding blankets and/or welding curtains.
- Combustible floors (except wood on concrete) must be kept wet, covered with damp sand, or protected by fire-resistant shields. Personnel operating arc welding or cutting equipment must be protected from possible electrical shock when floors are wetted.
- Combustible waste shall not be allowed to accumulate on floors and other surfaces within the hot work area. Hot work areas shall be regularly cleaned and combustible waste removed and disposed of lawfully.
- Partitions segregating hot work areas from other areas of the building shall be of noncombustible construction to prevent the passage of sparks, slag, and heat from the hot work area.

8.2 FIRE-RESISTANT SHIELDS / CURTAINS

- Openings or cracks in walls, floors, ducts or shafts within 35 feet (10 668 mm) of the hot work area must be tightly covered to prevent the passage of sparks to adjacent combustible areas, shielded by metal fire-resistant guards, or provided with curtains to prevent passage of sparks or slag.
- Approved welding curtains or flash screens must be used in and around the active work areas to protect others from welding, cutting or grinding operations.
- Where cutting or welding is performed near walls, partitions, ceilings, or roofs of combustible construction, fire-resistant shields or guards have been provided to prevent ignition.

8.3 FIRE PROTECTION SYSTEMS

- Where hot work is performed close to sprinklers, noncombustible barriers or damp cloth guards shall shield the individual sprinkler heads and shall be removed when the work is completed. If the work extends over several days, the shields shall be removed at the end of each workday.
Where fire hose lines are required, they shall be connected, charged and ready for operation.

- Sprinkler system protection shall not be shut off or impaired while hot work is performed unless approved by the fire commissioner.
- Approved special precautions shall be taken by EHS to avoid accidental operation of fire detection system(s).

8.4 SMOKE EATERS
Smoke eaters or Welding Fume Extractors Must be utilized during hot work to help remove toxic gas, dust, fumes, vapors and smoke. Exhausting fumes and/or smoke by way of a building system is not permitted, unless approved by WCMC Engineering and Maintenance (E&M).

8.5 FIRE EXTINGUISHERS
A portable fire extinguisher with at least a 2-A:20-B:C rating (a minimum 3- A:40-B:C rating fire extinguisher on torch-applied roofing system operations) must be readily accessible within 30 feet of the location where hot work is performed and where the fire guards are positioned.

8.6 FIRE EXTINGUISHER INSPECTIONS
Fire extinguishers must be inspected monthly. This inspection is a quick check that confirms the fire extinguisher is available and will operate. It is intended to give reasonable assurance that the fire extinguisher is fully charged and operable. The information of the monthly inspection record must include the date the inspection was performed, the person performing the inspection, and those portable fire extinguishers found to require corrective action.

In the event of a fire extinguisher being discharged, a fully charged replacement is required before work can resume.

8.7 HIGH HAZARD LOCATIONS
Cutting or welding torches are not allowed in areas where there would be a high hazard, such as rooms containing flammable gases, vapors, liquids, dust or any other materials, which catch fire easily.

8.8 OXYGEN AND ACETYLENE CONTAINERS
Oxygen and acetylene containers used for torch operations may be stored overnight on the floors on which the torch work is being conducted only in an unoccupied building and only in an approved FDNY storage area. No reserve oxygen or acetylene containers can be stored on the floors. (Any containers that are not
necessary for the day’s torch operations are considered reserve storage). Reserve storage of the containers must be in approved FDNY reserve storage areas.

8.9 **CONFINED SPACE**

When it is necessary to conduct hot work in a confined space, permits will not be approved unless Environmental Health and Safety has approved entry into the area. Additional information is available in the EHS Confine Space Program Manual available here: [http://weill.cornell.edu/ehs/manuals/7.3ConfinedSpace.pdf](http://weill.cornell.edu/ehs/manuals/7.3ConfinedSpace.pdf).

8.10 **NOTIFICATION**

Fire guards must know whom to call to report a fire and must have a method of communicating to the project office or directly to emergency services.

- Fire guards shall immediately call 911 for any fire.
- Fire guards must know the location of fire extinguishers and emergency exits.
- Fire guards are responsible for seeing that FDNY is called in an emergency.
- If a fire caused by hot work is extinguished immediately, EHS shall be immediately notified.
- Any incident involving notification of the emergency services must be reported to EHS.

8.11 **INSPECTION REPORT**

Logbooks or inspection reports are required to be prepared and endorsed by fire guards (fire guards for hot work operation and fire guards for supervising construction site from 4:00 pm-12:00 am). Fire guards should enter in the log/report the condition of all fire suppression/ firefighting equipment at the site, including the standpipe and/or sprinkler and presence of fire extinguishers on each floor. The log/report must be present for FDNY inspection at the site, and contain the results of inspections, any deficiencies discovered, and the name of the fire guard who conducted the inspections.

9.0 **SIGNAGE**

If the hot work area is accessible to persons other than the operator of the hot work equipment, signs must be posted in a conspicuous location to warn others before they enter the hot work area. The signs should read as follows:

**CAUTION**

**HOT WORK IN PROGRESS**

**STAY CLEAR**

Hazard identification signs are provided by EHS, an example is available in Appendix C.
10.0 GAS WELDING AND CUTTING

Oxy-fuel welding (commonly called oxyacetylene welding, oxy welding, or gas welding) and oxy-fuel cutting are processes that use fuel gases and oxygen to weld and cut metals, respectively. In oxy-fuel welding, a welding torch is used to weld metals.

10.1 GAS WELDING AND CUTTING REQUIREMENTS

- Devices or attachments mixing air or oxygen with flammable gases prior to consumption except at the burner or in a standard torch or blow pipe, are prohibited.
- Containers, valves, regulators, hose and other apparatus and fittings for oxygen must be kept free of oil or grease. Oxygen containers, apparatus and fittings may not be handled with oily hands, oily gloves, or greasy tools or equipment.
- Acetylene gas must be stored, transported and used in the vertical, upright position.
- Place cylinders away from the welding operation so that they will not be unduly heated by radiation from heated materials.
- Oxygen and fuel gas containers must be located at a distance from the hot work area sufficient to protect containers from heat, sparks, slag, or misdirection of the torch flame.
- The torch valve must be closed and the gas supply to the torch completely shut off when hot work operations are discontinued for a period of 1 hour or more.
- Proper cylinder carts must be used for moving or relocating tanks.
- A suitable cylinder truck, chain, or other steadying device must be used to keep cylinders from being knocked over while in use.
- Tanks or cylinders of compressed gases must be properly secured in an up-right position at all times.

10.2 EMERGENCY SHUT-OFF

Oxygen and fuel gas container valves must be accessible to the torch operator or fire guard for immediate shut off of the gas supply in the event of an emergency.

10.3 PROHIBITED OPERATIONS

The following hot work operations are prohibited.

- Welding or cutting operations supported by or resting on compressed gas containers.
- Torch-applied roof system operations on roofs constructed of combustible materials.
- Use of acetylene generators.
11.0 ELECTRICAL ARC HOT WORK

Arc welding is a type of welding that uses a welding power supply to create an electric arc between an electrode and the base material to melt the metals at the welding point. They can use either direct (DC) or alternating (AC) current, and consumable or non-consumable electrodes. Getting the arc started is called striking the arc. An arc may be struck by either lightly tapping the electrode against the metal or scratching the electrode against the metal at high speed.

11.1 GENERAL REQUIREMENTS

- The frame or case of electric hot work machines (except internal-combustion-engine-driven machines) must be grounded. Ground connections must be mechanically strong and electrically adequate for the required current.
- Damaged cable must be removed from service until properly repaired or replaced.
- Welding rods should be stored in the container on the welding machine; do not throw on floors or staging.
- Welding current return circuits from the work to the machine must have proper electrical contact at joints. The electrical contact must be periodically inspected.

11.2 EMERGENCY DISCONNECT

A switch or circuit breaker must be provided so that fixed electric welders and control equipment can be disconnected from the supply circuit. The disconnect must be installed in accordance with the Electrical Code.

12.0 HOT WORK AUTHORIZATION PERMIT PROCEDURES

A hot work authorization permit must be obtained from WCMC EHS prior to the start of any hot work. Hot work authorization will not be issued on days when the same building’s sprinkler/standpipe or fire alarm system is disabled for repair or emergencies, regardless of previous scheduling.

12.1 EMERGENCY HOT WORK AUTHORIZATION PERMIT (E.G. BROKEN STEAM PIPE, WATER LINE, ETC.)

To request an emergency Hot Work Authorization Permit, call the Hot Work Phone Number:

347-735-9262

12.2 NORMAL BUSINESS HOURS REQUESTS

12.2.1 Hours

Issued: Monday – Friday, 8:00 AM – 4:00 PM
12.2.2 Request Procedure

- Complete and submit the Hot Work Scheduling Request Form (Appendix A) to EHS by:
  - Email: fire@med.cornell.edu
  - Fax: 646-962-0288
- EHS will review the request and contact the requestor to schedule a work-site inspection.
- A Pre-Hot Work Check must be conducted by the responsible person for the hot work area prior to the EHS work site inspection, see Appendix B.
- The signed Hot Work Authorization Permit will be issued for the hot work area.

12.2.3 Expedited Process

- Submit the completed Hot Work Scheduling Request Form (Appendix A) to EHS by:
  - Email: fire@med.cornell.edu
  - Fax: 646-962-0288
- EHS will review the request and contact the requestor to schedule a work-site inspection.
- A Pre-Hot Work Check must be conducted by the responsible person for the hot work area prior to the EHS work site inspection, see Appendix B.
- The signed Hot Work Authorization Permit will be issued for the hot work area.

12.3 OFF-HOURS REQUESTS

Follow the procedures below to request a Hot Work Authorization Permit for work that cannot take place during normal business hours. Off-hours requests may only be submitted by WCMC Capital Planning or Engineering & Maintenance.

- Complete and submit the Hot Work Scheduling Request Form (Appendix A) at least 1 week in advance to EHS by:
  - Email: fire@med.cornell.edu
  - Fax: 646-962-0288
- EHS will review the off-hours request and notify the requestor if approved or denied.
- The review process will require a site visit by EHS and may require further discussion into the scope of the hot work activity.

12.3.1 Approved Off-Hours Requests

When an off-hours Hot Work request is approved, the responsible person for the hot work area designated by EHS will complete the Pre-Hot Work Check,
inspect the hot work and periodically monitor the work as it is being performed to ensure there are no fire safety hazards.
- Note: If the area is not safe, work will postponed until such time as the area is made safe.

12.3.2 Unapproved Off-Hours Requests

If the Hot Work Permit Request is not approved, the requestor will either:
- Conduct the hot work activity during normal business hours in accordance with this Program.
- Contact EHS to further discuss the hot work activity with the EHS Director or other authorized EHS representative.

12.4 HOT WORK DURATION

Hot Work is only valid for the time duration identified on the authorization form. No Hot Work Permit may exceed an 8 hour period. If additional time is needed, the requester must notify EHS for an extension or the issuance of a new permit.

In cases requiring multiple work days, EHS may issue an authorization for the duration of one week (i.e., 5 days, Monday - Friday). In that case, a daily Pre-Hot Work Check is required.

12.5 HOT WORK AUTHORIZATION PERMIT CLOSE-OUT PROCEDURES

- Once the hot work is completed, the Torch Operator must notify EHS at: 347-735-9262.
- The fire watch (fire guard) must continue for a minimum of 30 minutes after the conclusion of the hot work and remain on-site until the EHS designated responsible person arrives for the close-out inspection.
- The fire guard must submit the Pre-Hot Work Check Form, fire guard inspection report and issued Hot Work Authorization Permit to the EHS designated responsible person during the close-out inspection.
- If applicable, EHS will enable any precautions that were taken regarding the fire alarm system.

13.0 TRAINING

Engineering & Maintenance supervisors and Capital Planning project managers must attend Hot Work Program Training. Employees who perform hot work activities or supervise hot work will receive initial training and annual refresher over the Hot Work Program. It is the responsibility of E&M to ensure their employee receive training. EHS will coordinate and track training requirements for the College.
14.0 RECORD RETENTION, AVAILABILITY AND REVISIONS

14.1 TRAINING RECORDS

EHS maintains all training records for WCMC personnel. Training records will be reviewed on an annual basis to ensure compliance with this program. Training records are available upon request.

Contractors are responsible for maintaining required training records for any contractors performing hot work in WCMC space. These records should be available for WCMC review upon request.

14.2 RECORD REQUIREMENTS:

Hot work Authorization Permits, Pre-Hot Work Check Forms and all required FDNY permits must be available for inspection by the FDNY during the performance of the work. EHS will maintain the records for 48 hours after the work is complete.

14.3 REVISIONS

An annual review will be conducted of the Hot Work Program. Program revisions will be made should any deficiencies be identified during the annual review. Updates to the New York City Fire Code, Rules or Building Code will trigger a review of the Program and any necessary revisions will be made during the program review.

15.0 DEFINITIONS

AREA REVIEWS: Before hot work is authorized and at least once per day while the authorization is in effect, the hot work area shall be inspected by the responsible person to ensure that it is a fire safe area.

CERTIFICATE OF FITNESS: A written statement issued by the commissioner certifying that the person to whom it is issued has passed an examination as to his or her qualifications or is otherwise deemed qualified to use or supervise the storage, handling and use of a material, conduct or supervise an operation, or supervise a facility for which such certificate is required by this code or the rules.

FIRE GUARD: A person holding a certificate of fitness for such purpose, who is trained in and responsible for maintaining a fire watch and performing such fire safety duties as may be prescribed by the commissioner.

HOT WORK PROGRAM: Whenever hot work is performed in any building or structure, on a building roof or on a building setback, WCMC shall ensure that such work is performed in accordance with the fire code and shall designate a responsible person to ensure compliance.
HOT WORK PROGRAM AUTHORIZATION: A hot work program authorization bearing the signature of the responsible person shall be obtained for any project conducted on a premise involving hot work operations by the person in charge of such hot work operations. Hot work authorizations, issued by the responsible person, shall be available for inspection by any representative of the department during the performance of the work and for 48 hours after the work is complete.

HOT WORK: Cutting, welding, Thermit welding, brazing, soldering, grinding, thermal spraying, thawing pipe, cadwelding, installation of torch-applied roof systems or any other similar operation or activity. Hot work authorization may be required for non-fire causing work. Non-fire causing work is work which may interfere with fire protection systems but does not have the potential to start a fire. Some examples include dust generating work (e.g., sanding) or steam generating work.

HOT WORK AUTHORIZATION PERMIT: A special permit issued by WCMC EHS which authorizes specified hot work at a specific location and time.

HOT WORK EQUIPMENT: Electric or gas welding or cutting equipment used for hot work.

RESPONSIBLE PERSON FOR HOT WORK AREA: Hot work operations shall be conducted under the general supervision of the responsible person. The responsible person is required to conduct and complete the pre-hot work check.

PRE-HOT WORK CHECK: A pre-hot work check shall be conducted by the responsible person prior to work to ensure that all equipment is safe and hazards are recognized and protected. A report of the check shall be kept at the work site during the work and made available for inspection by any representative of the department. The pre-hot work check shall be conducted at least once per day.

QUALIFICATIONS OF OPERATORS: An authorization for hot work operations shall not be issued unless the individuals in charge of performing such operations are capable of performing such operations safely.

RESPONSIBLE PERSON: A person designated by EHS and trained in the fire safety hazards associated with hot work and in the necessary and appropriate measures to minimize those hazards.

TORCH-APPLIED ROOF SYSTEM: Bituminous roofing systems using membranes that are adhered by heating with a torch and melting asphalt back coating instead of mopping hot asphalt for adhesion.
16.0 REFERENCES AND APPENDIX

Welding and Other Hot Work: [FC Chapter 26]
Fire Prevention During Welding, Cutting and Other Hot Work: [NFPA 51B, 2003 edition]
Portable Fire Extinguishers [NFPA 10, 2007 Edition]
Liquefied Petroleum Gases: [Rule 3809-01]
Compressed Natural Gas [Rule 3507-01]
New York City Fire Code
Title 3 of the Rules of the City of New York (RCNY)
APPENDIX A – HOT WORK SCHEDULING REQUEST FORM

(Refer to the next page)
Hot Work Scheduling Request Form

Section 1: Instructions

The Hot Work Scheduling Request Form must be completed by the WCMC staff member coordinating the hot work (i.e., E&M Supervisor, Project Manager). This form must be presented to obtain a Hot Work Authorization Permit.

Complete Sections 2, 3, and 4 of this form. Submit the completed form and copies of the Torch Operator and Fire Guard Certificates of Fitness along with any required FDNY permits to EHS by email (fire@med.cornell.edu) or by fax (expect a slower response time). EHS will contact you to schedule a work site visit or request additional information.

- Normal business hours requests: Submit 24 – 48 hours in advance
- Off-hours / weekend requests: Submit at least one week in advance

Once reviewed by EHS, the WCMC Requestor will be emailed a completed copy of this Form.

Section 2: WCMC Requestor

<table>
<thead>
<tr>
<th>WCMC Requestor Name:</th>
<th>Department:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature:</td>
<td>Date:</td>
</tr>
</tbody>
</table>

Section 3: General Information

<table>
<thead>
<tr>
<th>Hot Work Location/Building:</th>
<th>Floor:</th>
<th>Room:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot work area (be specific):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start Date:</th>
<th>Start Time:</th>
<th>End Date:</th>
<th>End Time:</th>
</tr>
</thead>
</table>

Type:  
- [ ] OXY- Acetylene  
- [ ] Brazing  
- [ ] Arc Welding  
- [ ] Soldering  
- [ ] Brazing  
- [ ] Other (list):  

For Off-Hours / weekend request:  
- [ ] Before 8am / after 5pm  
- [ ] Weekend  

For off-hours/weekend request, provide justification for why hot work cannot be conducted during normal business hours.

Section 4: Contact Information

<table>
<thead>
<tr>
<th>Name of company performing the work:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsible Person for Hot Work Area:</td>
<td>Title:</td>
</tr>
</tbody>
</table>

| WCMC ❑ Contractor ❑ | Phone: |

Section 5: EHS Approval

<table>
<thead>
<tr>
<th>Approved ❑</th>
<th>Not approved (provide details):</th>
</tr>
</thead>
</table>

Reviewed / Approved by:  
| Title: | Date: |

Section 6: EHS Contact Information

Hot Work Phone: 347-735-9262  
Fax: 646-962-0288  
Email: fire@med.cornell.edu

THIS IS NOT A HOT WORK PERMIT  
Hot work cannot begin until a Hot Work Authorization Permit is issued by EHS.
APPENDIX B – PRE-HOT WORK CHECK FORM

(Refer to the next page)
Pre-Hot Work Check Form

Instructions:

The Pre-Hot Work Check must be conducted by the Responsible Person for the hot work area prior to the start of hot work to ensure that all equipment is safe and hazards are recognized and protected. The Pre-Hot Work Check must be conducted at least once per day. The Fire Guard is responsible for maintaining the Pre-Hot Work Check Form at the work site during the work and making it available for inspection by any representative of the FDNY. This Form must be returned to EHS and maintained on the premises for a minimum of 48 hours after work is complete.

Checklist

1. Equipment:
   a. Available sprinklers, hose streams, and extinguishers are available and operable. ☐ Yes
   b. Approved actions have been taken to prevent accidental operation of automatic fire detection systems. ☐ Yes
   c. Hot work equipment in good repair. ☐ Yes

2. Requirements within 35 feet of work area:
   a. Flammable liquids, dust, lint, and oil deposits removed. ☐ Yes
   b. Floor swept clean. ☐ Yes
   c. Combustible floors wet down, covered with fire-resistant sheet. ☐ Yes
   d. Remove other combustibles where possible. Otherwise protect with fire-resistant cover or metal shields. ☐ Yes
   e. All wall and floor openings covered. ☐ Yes
   f. Combustibles on other side of walls moved away. ☐ Yes

3. Fire Watch/ hot work area monitoring:
   a. Fire Watch will be provided during and at least 30 minutes after work. ☐ Yes
   b. Fire Watch is supplied with fire extinguishers. ☐ Yes
   c. Fire Watch may be required for adjoining areas and below. ☐ Yes

4. Permit and Certificate of Fitness:
   a. Required site-specific permit or citywide permit for oxygen and a flammable gas is readily accessible. ☐ Yes
   b. All persons performing hot work possess Certificate of Fitness (e.g. G-95 COF for torch operator; F-93 COF for fire guard). ☐ Yes

Responsible Person

Name: ___________________________________________ Date: ____/____/_____

Company: ___________________________________________ Title: _________________________

Signature: ___________________________________________

Assistance

Hot Work Phone: (347) 735-9262  ▪ Email: fire@med.cornell.edu
<table>
<thead>
<tr>
<th>Program Title</th>
<th>Program No.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hot Work Program</td>
<td>2.3.3</td>
<td>Fire Safety and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emergency Response</td>
</tr>
</tbody>
</table>

**APPENDIX C – HOT WORK AUTHORIZATION PERMIT**

(Refer to the next page)
## HOT WORK AUTHORIZATION PERMIT

**Note:** This authorization applies only to this job, and in the area specified during the date and time noted.

### GENERAL INFORMATION

<table>
<thead>
<tr>
<th>Hot Work Performed By:</th>
<th>☐ WCMC Staff</th>
<th>☐ Contractor</th>
<th>☐ Off-hours</th>
<th>Authorization #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor / Foreman Name:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contractors Company Name / WCIM Department:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor / Foreman / On-site emergency contact phone number:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location: building address, room number and/or area of work:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permit Start Date:</td>
<td>Permit Start Time:</td>
<td>Permit Stop Date:</td>
<td>Permit Stop Time:</td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### HOT WORK ACTIVITY

- ☐ ARC WELDING
- ☐ SOLDERING
- ☐ GRINDING
- ☐ BRAZING
- ☐ THAWING PIPE
- ☐ OXY-ACETYLENE
- ☐ WELDING
- ☐ CUTTING
- ☐ NON-FIRE WORK
- ☐ OTHER:

All hot work activities must be conducted by FDNY Certificate of Fitness holders. The Certificate of Fitness holders certify that all applicable codes, WCIM procedures and safety precautions will be followed for as long as the hot work authorization permit is effective. Certificate of Fitness holders shall be responsible for keeping such certificate upon his/her person or otherwise readily available for inspection. Any change in listed Certificate of Fitness holder(s) voids this authorization permit.

<table>
<thead>
<tr>
<th>Torch Operator:</th>
<th>Certificate #:</th>
<th>Exp Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Guard:</td>
<td>Certificate #:</td>
<td>Exp Date:</td>
</tr>
</tbody>
</table>

### ACCEPTANCE AND PRE-CHECK BY THE RESPONSIBLE PERSON FOR HOT WORK

(PRE-HOT WORK CHECK MUST BE CONDUCTED BY THE RESPONSIBLE PERSON BEFORE HOT WORK IS AUTHORIZED AND AT LEAST ONCE PER DAY)

I certify that all applicable codes, procedures, regulations, rules, pre-checks and safety precautions will be followed for as long as the hot work authorization is effective.

**Name (Responsible Person):**

<table>
<thead>
<tr>
<th>Signature (Responsible Person):</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ WCMC Staff</td>
<td>☐ Contractor</td>
</tr>
</tbody>
</table>

### DESIGNATED TO AUTHORIZE THE PERFORMANCE OF HOT WORK

(FOR EHS USE ONLY)

<table>
<thead>
<tr>
<th>Name:</th>
<th>Signature:</th>
<th>Time:</th>
<th>Date:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Fire alarm precautions taken</th>
<th>☐ YES</th>
<th>☐ N/A</th>
<th>Type:</th>
<th>Pre-hot work check completed:</th>
<th>☐ YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDNY Permit required to conduct hot work?</td>
<td>☐ YES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This authorization shall be available for inspection by any representative of the FDNY during the performance of the work and for 48 hours after the work is complete.

### ASSISTANCE

Hot Work Phone: (347) 735-9262  •  Email: fire@med.cornell.edu

August 2011